

REMARKS

Claims 2-5 are pending in the present Application. Claim 3 has been amended, and Claims 26 and 27 have been added, leaving Claims 2-5, 26, and 27, for consideration upon entry of the present Amendment.

Claim 3 has merely been amended to provide proper antecedent basis for "the" second load cell.

Support for new Claims 26 and 27 can at least be found in Claims 1 and 3 as originally filed.

No new matter has been introduced by these amendments or new claims.

Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 2-5 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over U.S. Patent No. 4,657,829 to McElroy et al. in view of U.S. Patent No. 6,040,072 to Murphy et al., and further in view of U.S. Patent No. 4,292,852 to Morris. Applicant respectfully traverses this rejection.

It is conceded that McElroy et al. fail to teach

...an inlet control device (Claim 4); a load cell disposed in operable communication with the fluid containment vessel (Claim 4); a second load cell (Claim 2); or a load cell with a compressive force measurement device (Claim 3) or tensile force measurement device (Claim 4).

(Office Action dated April 4, 2006, hereinafter "OA 04/06", pages 4-5) Therefore, Murphy et al. and Morris are relied upon to teach a load cell disposed in operable communication with the fluid containment vessel, an inlet control device, a second load cell, a load cell with a compressive force measurement device, and a load cell with a tensile force measurement device. The Examiner alleges that McElroy et al., in light of Murphy et al. and Morris, render Applicant's claims obvious. Applicant respectfully disagrees with this contention.

Section 103 sets out the test for obviousness determinations. It states, in pertinent part, that such determinations are to be made by consideration of

. . . the differences between subject matter sought to be patented and the prior art such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the [pertinent] art.

In making a Section 103 rejection, the Examiner bears the burden of establishing a *prima facie* case of obviousness. *In re Fine*, 5 U.S.P.Q. 2d 1596, 1598 (Fed. Cir. 1998). The Examiner

“ . . . can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in art would lead that individual to combine the relevant teachings of the references”. *Id.*

McElroy et al., when taken as a whole, teach an electrolyzer and gas storage subassembly associated with a fuel stack. (Col. 5, lines 2-5) McElroy et al. teach separators that contain a float switch that actuates pump and drain valves and circulates water from gas/water separators to the electrolyzer when the water level is too high. (Col. 5, lines 20-30) However, McElroy et al. not fail to teach several aspects of the present claims. Therefore, the Examiner relies on Murphy et al. to remedy McElroy’s deficiencies.

Murphy et al. are relied upon to allegedly teach “it is conventional to employ load cells to obtain real time feedback on changes in the load brought about by aging of materials...” (OA 04/06, page 4) However, Murphy et al. specifically teach “...a load cell as part of the screw...[wherein] the bolt itself contains the load cell, which is connected to a meter, and the bolt is tightened until the desired load pattern is achieved.” (Col. 8, lines 42-47) As such, Murphy et al. teach a load cell as part of a screw used to determine the load on the cell stack (Col. 8, lines 44-55) and provide no teaching or suggestion of a “tensile force measurement device for measuring a weight of the fluid containment vessel” or a “load cell disposed in operable communication with the fluid containment vessel”. (Claim 4)

Morris is similarly relied upon in OA 04/06 to allegedly teach “that it is well known in the art to employ tensile force measurement devices in electrochemical cell systems, because the device makes it possible to check the electrical integrity... of the connection.” (OA 04/06, page 4) However, Morris’s disclosure generally relates to the manufacture of electrode assemblies for electrochemical cells. (Col. 1, lines 9-12) Specifically, Morris teaches a method to test the “integrity of the mechanical joint between a coiled plate electrode assembly and a terminal

conductor welded thereto” (Abstract). “[B]y physically testing the integrity of the mechanical connection between the terminal conductor [] and the electrode assembly... it is possible to check the electrical integrity, as well as the physical integrity of the connection.” (Col.7, lines 37-41) Morris clearly fails to teach a tensile force measurement device in operable communication with a fluid containment vessel as presently claimed. Applicant’s claim is not limited to a tensile force measurement device for an electrode assembly to test the physical or electrical integrity of their system. The present claims have a load cell in operable communication with a fluid containment vessel. Morris clearly fails to teach a load cell to measure the weight of a fluid containment vessel or how a load cell could be used with a fluid containment vessel.

Applicant notes that obviousness is not based upon what an artisan “could do” or what an artisan “may try”, but is based upon what an artisan would be motivated to do with an expectation of success. “Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, No. 04-1616 (CAFC March 22, 2006) citing *In re Lee*, 277 F.3d 1338, 1343-46 (Fed. Cir. 2002); and *In re Rouffett*, 149 F.3d 1350, 1355-59 (Fed. Cir. 1998). “When the [Examiner] does not explain the motivation, or the suggestion or teaching, that would have led the skilled artisan at the time of the invention to the claimed combination as a whole, [it is] infer[ed] that the [Examiner] used hindsight to conclude that the invention was obvious.” *Id.* Merely because Murphy et al. use a load cell on an electrochemical cell to apply compressive force, and merely because Morris is concerned about the connection of the terminal conductor and the electrode assembly and therefore tests the connection by applying a tensile force thereto, is not motivation to randomly pick these elements of these references and to use them in a different fashion in McElroy. Mere existence of these elements is not motivation to use them in an undisclosed fashion, and mere conclusory statements such as “because it makes it possible to check the electrical integrity...” are not motivation. These are just evidence of the inappropriate use of hindsight reconstruction.

Applicant claims an electrochemical cell system that comprises “a load cell disposed in operable communication with the fluid containment vessel, wherein the load cell comprises a tensile force measurement device for measuring a weight of the fluid containment vessel.”

(Claim 4) Neither McElroy et al., Murphy et al., nor Morris, teach this element of the present claims. Actually, none of these references even teach an electrochemical system comprising “a load cell disposed in operable communication with the fluid containment vessel.” (Claim 26)

McElroy et al. teach a conventional fluid vessel that employs floats. The present application describes the problems with floats in detail and the many advantages of the presently claimed system. Neither Murphy et al. nor Morris teach load cells in communication with a fluid vessel. Hence, even if the references are combined for what they teach, the combination will still at least fail to teach an electrochemical system comprising “a load cell disposed in operable communication with the fluid containment vessel.”

The Examiner provides no articulated reasoning as motivation for employing a load cell disclosed in Murphy et al., i.e. a load cell as part of a screw used to determine the load on the cell stack (Col. 8, lines 44-55), in the gas/water separator of McElroy et al. There is no teaching or suggestion in Murphy et al. to use a load cell to measure the weight of a fluid containment vessel (Claim 4), as it is apparent that the load cell disclosed by Murphy et al. is used to achieve compression on the cell stack. There is no teaching or suggestion in Murphy et al. of a load cell in operable communication with the fluid containment vessel. As such, there is no motivation or suggestion of how to combine the load cell of Murphy et al. with the system of McElroy as suggested in OA 04/06, and no expectation of success.

Morris and Murphy et al. both fail to disclose a fluid containment vessel, and the load cells disclosed in Morris and Murphy et al. are utilized for functions unrelated to Applicant's claims. No motivation (besides a merely conclusory statement) and no expectation of success have been provided to combine the references as suggested in the office action, i.e., in a way that is different than the teachings of the references. Since the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art, i.e., that the prior art relied upon must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references, and that the proposed modification of the prior art must have had a reasonable expectation of success, and since that burden has not been met, no *prima facie* case of obviousness has been established. Reconsideration and withdrawal of these rejections are respectfully requested.

Specifically regarding Claims 2 and 3, clearly, since Morris, Murphy et al., and McElroy et al. all fail to a load cell in operable communication with a fluid containment vessel, they clearly fail to teach a second load cell or a second load cell comprising a compressive force measurement device for measuring a weight of the fluid containment vessel. Additionally, such a load cell is not obvious. Again, as discussed above, the Examiner can only establish that a claim is obvious “. . . by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in art would lead that individual to combine the relevant teachings of the references”. *In re Fine*, 5 U.S.P.Q. 2d 1596, 1598 (Fed. Cir. 1998). No such teaching has been provided. Hence, no *prima facie* case of obviousness has been established.

Specifically regarding the inlet control device (Claim 4), the Examiner contends that

It would have been obvious to one of ordinary skill in the art to employ an inlet control device to manage inlet flow to the fluid containment vessel. As illustrated in McElroy, the skilled artisan practices employing flow control devices throughout electrochemical systems.

(OA 04/06, page 4) Applicant again notes that obviousness is not based upon what an artisan could do or what an artisan may try, but is based upon what an artisan would be motivated to do with an expectation of success. “Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, No. 04-1616 (CAFC March 22, 2006) citing *In re Lee*, 277 F.3d 1338, 1343-46 (Fed. Cir. 2002); and *In re Rouffett*, 149 F.3d 1350, 1355-59 (Fed. Cir. 1998).

Here, the Examiner merely relies on a conclusory statement, e.g., “the skilled artisan practices employing flow control devices throughout electrochemical systems.” There is no teaching, suggestion, or motivation to add an inlet control device as is claimed in the present application to the electrochemical system of McElroy et al, and there is no expectation of success. There is no explanation of how such combination would, could, or might affect the operation of the system. There is no teaching or motivation in McElroy et al. to use a flow control device as claimed in the present claims.

The present application is not the mere combination of two mechanical components into a single component as suggested in the conclusory statement. The interaction of the components

and the ability to function as intended are factors. As is discussed in the application, Applicant teaches and claims a unique system that overcomes issues encountered with prior art systems.

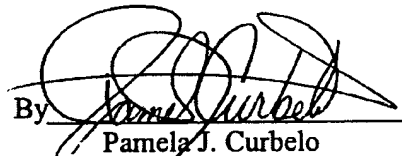
Reconsideration and withdrawal of the rejection are respectfully requested.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and withdrawal of the rejection and allowance of the case are respectfully requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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